

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.); the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

New England Aquarium Corporation

is authorized to discharge from the facility located at

**Central Wharf
Boston, MA 02110**

to receiving water named

**Boston Harbor
Boston Harbor Basin (70)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective sixty (60) days from the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on April 23, 1974.

This permit consists of 7 pages in Part I including effluent limitations, monitoring requirements; Attachment A, Marine Acute Toxicity Test Procedure & Protocol; and 35 pages in Part II including General Conditions and Definitions.

Signed this 13th day of November, 2001

/Signature on File/

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Acting Assistant Commissioner
Bureau of Resource Protection
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number 001. Such discharge shall be limited and monitored by the permittee as specified below.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>		<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	GPD	200,000	Report	Continuous ¹	Recorder
TSS	mg/l	30	60	1/Month	24 Hour Composite ²
	lbs/day	38	75	1/Month	24 Hour Composite ²
Total Residual Chlorine	mg/l	1.0	Report	1/Week	Grab
pH	S.U.	(See Condition I.A.1.b. on Page 4)		1/Week	Grab
Fecal Coliform ³	cfu's/100 ml	200	400	1/Month	24 Hour Composite ²
Copper, Total	ug/l	-----	Report	1/Month	24 Hour Composite ²
LC ₅₀ ⁴	%		100	2/Year	24 Hour Composite ²

Footnotes:

1. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average limit, which shall be reported as a rolling average. The first value shall be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. (e.g. If the permit is effective on 9/15/01, the first reported annual average will be taken from the October 2001 DMR and the previous eleven monthly average flows.) Each subsequent month's DMR will report the annual average flow from the current month and for the previous 11 months.
2. A 24-hour composite sample will consist of at least twenty-four (24) grab samples that are flow proportioned and taken during the daily shift.
3. Fecal coliform monitoring is a monthly reporting requirement.
4. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

The permittee shall conduct acute toxicity tests two times per year. The acute test may be used to calculate the acute LC_{50} at the 48-hour exposure interval. The permittee shall test Mysidopsis bahia and Menidia beryllina. Toxicity test samples shall be collected on the second week of February, and August. Results are to be submitted by the 30th day of the month after the sample i.e. March, and September. See Permit Attachment A, Toxicity Test Procedure and Protocol.

After submitting **one year** and a **minimum** of two consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

Part I.A. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

PART I. A.

2. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).
 - b. That any activity has occurred or will occur which would result in the discharge, on non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).
 - c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
3. This permit may be modified, or revoked and reissued, on the basis of new information in accordance with 40 CFR §122.62.
4. Medications
 - a. The permittee shall use only medications and disease control chemicals in dosages and combinations that are appropriate to control short term outbreaks of disease.
 - b. Within six (6) months after the effective date of the permit and annually thereafter, the permittee shall provide to EPA and MA DEP a list of all medications and chemicals that are used in all

tanks and aquaria. For each medication or chemical the permittee shall identify:

Product name and chemical formulation of the medication or chemical.

The purpose or use of the chemical.

The dosage rate, frequency of application (hourly, daily, etc.) and the duration (number of days) of treatment.

The final effluent discharge concentration and load of all medications and chemicals over the life of the permit.

The method of application.

The method or methods used to detoxify the wastewater prior to discharge, if necessary.

Information on the persistence and toxicity of each medication or chemical such as a Material Safety Data Sheets (MSDS).

Information on the United States Food and Drug Administration (USFDA) approval for use of the medication or chemical for human consumption, if applicable.

Available aquatic toxicity data for each medication or chemical used (vendor data, literature data, etc.); no effect level and LC_{50} for typical aquatic organisms (salmon, trout, daphnia, fathead minnow, etc.).

- c. Within five (5) working days, the permittee shall notify, in writing, the Director of EPA's Office of Ecosystem Protection and the Regional Director of MA DEP's Bureau of Resource Protection of the emergency use or the immediate intended use of any medication or chemical not previously listed with the above submittal.

5. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

6. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfall listed in Part I. A.1. of this permit. Discharges of wastewater from any other point sources, are not authorized by this permit and shall be reported in accordance with Section D.1.e (1) of the General Requirements of this permit (twenty-four hour reporting).

C. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Northeast Regional Office
205 A Lowell Street
Wilmington, MA 01887

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

C. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the

Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.